

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Cancelled)

2. (Currently Amended) A p-type electrode material represented by a composition formula

$A_xB_yC_z$, characterized in that:

A consists of at least one element selected from Group 1B metal elements,

B consists of at least one element selected from Group 8 metal elements, and

C consists of at least one element selected from S and Se,

wherein mole ratios X, Y, and Z are such that $X+Y+Z=1$, $0.20 \leq X \leq 0.35$,

$0.17 \leq Y \leq 0.30$, and $0.45 \leq Z \leq 0.55$,

~~A p-type electrode material according to claim 1, characterized in that wherein said A comprises Cu, and said B comprises Fe.~~

3. (Currently Amended) A p-type electrode material represented by a composition formula

$A_xB_yC_z$, characterized in that:

A consists of at least one element selected from Group 1B metal elements,

B consists of at least one element selected from Group 8 metal elements, and

C consists of at least one element selected from S and Se,

wherein mole ratios X, Y, and Z are such that $X+Y+Z=1$, $0.20 \leq X \leq 0.35$,

$0.17 \leq Y \leq 0.30$, and $0.45 \leq Z \leq 0.55$,

~~A p-type electrode material according to claim 1 or 2, characterized in that wherein said p-~~

type electrode material has a chalcopyrite structure.

4. (Currently Amended) A p-type semiconductor element characterized by having a structure wherein a Group II-VI compound semiconductor and ~~[[the]]~~ a p-type electrode material ~~according to claim 1~~ are in contact with each other,

wherein the p-type electrode material is represented by a composition formula $A_xB_yC_z$, characterized in that:

A consists of at least one element selected from Group 1B metal elements,

B consists of at least one element selected from Group 8 metal elements, and

C consists of at least one element selected from S and Se,

wherein mole ratios X, Y, and Z are such that $X+Y+Z=1$, $0.20 \leq X \leq 0.35$, $0.17 \leq Y \leq 0.30$, and $0.45 \leq Z \leq 0.55$.

5. (Currently Amended) A p-type semiconductor element characterized by comprising:
a semiconductor having a Group II-VI compound semiconductor layer at at least an outermost surface layer, and

~~[[the]]~~ a p-type electrode material ~~according to claim 1~~ which is in contact with said semiconductor via said Group II-VI compound semiconductor layer,

wherein the p-type electrode material is represented by a composition formula $A_xB_yC_z$, characterized in that:

A consists of at least one element selected from Group 1B metal elements,

B consists of at least one element selected from Group 8 metal elements, and

C consists of at least one element selected from S and Se,

wherein mole ratios X, Y, and Z are such that $X+Y+Z=1$, $0.20 \leq X \leq 0.35$, $0.17 \leq Y \leq 0.30$, and $0.45 \leq Z \leq 0.55$.

6. (Currently Amended) A p-type semiconductor element characterized by comprising:
a semiconductor having a Group II-VI compound semiconductor layer at at least an outermost surface layer, and
a hole-injection electrode portion placed in contact with said semiconductor via said Group II-VI compound semiconductor layer and made of a solid solution material of a compound $A_xB_yC_z$ in the form of ~~[[the]]~~ a p-type electrode material ~~according to claim 1~~ and a Group II-VI compound semiconductor,

wherein the p-type electrode material is represented by a composition formula $A_xB_yC_z$, characterized in that:

A consists of at least one element selected from Group 1B metal elements,

B consists of at least one element selected from Group 8 metal elements, and

C consists of at least one element selected from S and Se,

wherein mole ratios X, Y, and Z are such that $X+Y+Z=1$, $0.20 \leq X \leq 0.35$, $0.17 \leq Y \leq 0.30$, and $0.45 \leq Z \leq 0.55$.

7. (Previously Presented) A p-type semiconductor element according to claim 6, characterized in that components of said compound $A_xB_yC_z$ in said hole-injection electrode portion decrease continuously or stepwise from the surface toward said Group II-VI compound semiconductor layer.

8. (Previously Presented) A p-type semiconductor element according to claim 4,

characterized in that the Group II-VI compound semiconductor contains at least Zn as a Group II element and at least one element selected from S and Se as a Group VI element.

9. (Currently Amended) A p-type semiconductor element characterized by having a structure wherein a Group III-V compound semiconductor and ~~[[the]]~~ an electrode material ~~according to claim 1~~ are in contact with each other,

wherein the electrode material is represented by a composition formula $A_xB_yC_z$, characterized in that:

A consists of at least one element selected from Group 1B metal elements,

B consists of at least one element selected from Group 8 metal elements, and

C consists of at least one element selected from S and Se,

wherein mole ratios X, Y, and Z are such that $X+Y+Z=1$, $0.20 \leq X \leq 0.35$, $0.17 \leq Y \leq 0.30$, and $0.45 \leq Z \leq 0.55$.

10. (Currently Amended) A p-type semiconductor element characterized by having a structure wherein an organic semiconductor and ~~[[the]]~~ a p-type electrode material ~~according to claim 1~~ are in contact with each other,

wherein the p-type electrode material is represented by a composition formula $A_xB_yC_z$, characterized in that:

A consists of at least one element selected from Group 1B metal elements,

B consists of at least one element selected from Group 8 metal elements, and

C consists of at least one element selected from S and Se,

wherein mole ratios X, Y, and Z are such that $X+Y+Z=1$, $0.20 \leq X \leq 0.35$,

$0.17 \leq Y \leq 0.30$, and $0.45 \leq Z \leq 0.55$.

11. (Previously Presented) A p-type semiconductor element according to any of claims 4 to 10, characterized in that said p-type semiconductor element is a semiconductor light-emitting element.

12. (New) A p-type electrode material according to claim 2, characterized in that said p-type electrode material has a chalcopyrite structure.